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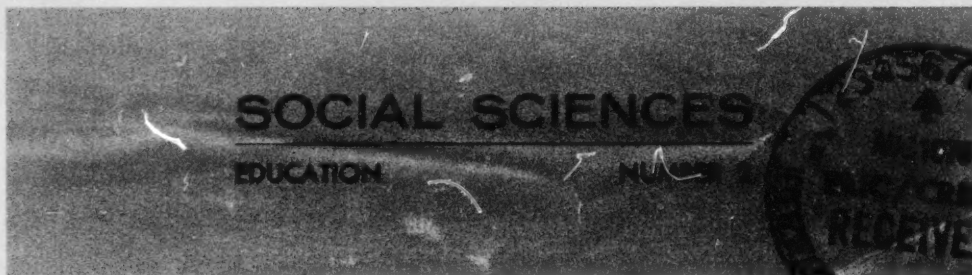
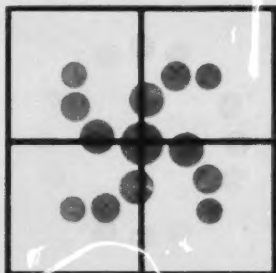
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ABSTRACT

In agricultural development, the production of food and fiber at optimum levels of quality, quantity, and cost per unit is viewed as the dependent variable, while the independent variables include all of the elements of production technology and other support activities. People and the opportunity for vocationally, economically, physically, and socially acceptable levels of living constitute the dependent variables in rural development, while the independent variables include job opportunities, housing, schools, health services, etc. The two processes are neither mutually exclusive nor identical; consequently, strategies for promoting either have implications for both. It is the singular role of the modern land grant institution to expand, accumulate, synthesize, organize, and extend its wealth of knowledge as widely as its resources will permit; therefore, these institutions should address the business of rural development. To remain effective forces in the instrumentation of positive change, the land grant institutions must virtually maintain a constant state of innovativeness and must embrace the concepts of accountability and public mission. The emerging educational direction is one that requires a multidimensional approach to change, wherein the land grant university extends its influence beyond agriculture and provides knowledge centers sensitive to the people's problems. (JC)

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Rural Development: An Emerging Social, Economic, and Demographic Imperative

by J. Paul Leagans

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FOREWORD

Several factors influenced the development of the idea for this analysis and its culmination in this publication. First was the observation made over a decade or more that the structure of rural America is becoming disjointed. The essence of the observation is that a dichotomy is emerging between the processes of rural development and modern, science-directed agricultural development. Although highly interrelated, it no longer seems possible to realistically regard these phenomena as being synonymous.

Second was the awareness that similar trends are emerging in numerous other countries. During recent consultative assignments in Africa, South America, and South East Asia to help develop strategies for accelerating rural and agricultural development, it became clear to me that rural development, in addition to agricultural development, is a prime requisite for balanced national growth. The need is recognized by numerous government leaders who posed the common question: How can we lessen, or reverse, the tide of rural-to-urban migration and, thus promote better-balanced national growth? Hence, an account similar to this one focused on the United States

could be written about many other countries simply by substituting the relevant situational data.

A third influence was felt during my recent sabbatical leave as visiting consultant on research and extension at Florida A&M University. The challenge arose when the university administrators invited me to participate in their current efforts to identify promising new thrusts in public service by the university. In an effort to be helpful, I did the initial research and wrote the preliminary draft of the analysis in that setting.

Other influencers were several of my professorial and administrative colleagues at Cornell University, who read the preliminary manuscript and made helpful suggestions. Likewise, about 20 staff members and administrators with rural development expertise in the USDA and in several other land-grant universities kindly read the preliminary draft and lent encouragement.

Pervasive in this effort, of course, is my life-long professional commitment to further conceptualize, articulate, and communicate through research, teaching, and writing, increasingly workable strategies for improving the quality of living and ways of making a living in rural America, as well as in countries abroad. If this analysis contributes to such a purpose, the effort will have been justified.

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Rural Development: an Emerging Social, Economic, and Demographic Imperative

J. Paul Leagans*

ORIENTATION

America is passing through a social, economic, demographic, and technological evolution that is "unhitching" the rural development process from the modern agricultural development process. The purpose of this paper is to analyze some major dimensions of this trend and relate the implications to emerging opportunities of land-grant universities, government agencies, and business enterprises for broadened public service to rural modernization.

In many important ways rural America — that part lying outside urbanized areas — may now be viewed as a new societal segment.¹ It is new, not because it was not there before, but because its social, economic, political, demographic, and physical anatomy is now so different from what it was in the past. Another thing that is new is the speed and complexity of change itself, especially in relation to technology and such central societal elements as shifting values and living patterns, which in turn affect the needs and rising expectations of the people.

The growing significance of rural development has emerged in recent years as the perception and implications of trends in the quality of living have become clear. If there is no sound rural development, it has become painfully obvious that there can be no balanced national development. The problem arises from the inseparable interdependence of the *urban*, *suburban*, and *rural* sectors.

The unprecedented speed of technological and societal change in America is clearly imposing on leaders of its land-grant universities, concerned government units, and business enterprises a growing necessity for careful analysis of socioeconomic, demographic, physical, technological, and political trends, and for relating implications of these trends to the future role of these institutions in achieving balanced national growth. Since there are no facts about the future — only about the past and present — the most accurate estimate of the effect of current social forces on

our future can be derived only from analyses and interpretations of trends.

For 50 years, and at an increasing rate, rural America has been drained of its people — over 30 million in 3 decades. And with them have gone many other resources critical to life in rural areas. When the United States took its first census in 1790, only 1 American in 20 lived in an urban area; today 15 out of every 20 live in urban centers — core cities and suburbia. Today, 70 percent of our people live on about 2 percent of our land. The farm population has fallen to about 10 million persons living on less than 3 million farms. In 1970, about 2 percent of the nation's farms marketed nearly 33 percent of the farm produce (U.S. Census, 1970).

The social, economic, and political effects of population concentrations are yet to be adequately appraised. However, stimulating this "rural exodus" or "urban invasion" were numerous changes that created actual and perceived living advantages offered in urban centers. Reduction or reversal of this trend in this "free-choice society" is likely to occur only when the actual or perceived advantages for both living and making a living in rural America are made to equal or exceed those in urban centers. It is encouraging to find evidence that this condition is beginning.

So the hard fact is that America is now a nonfarm nation, when measured demographically and occupationally, but this does not mean that it is a nonagricultural nation. Coupled with national development policies, these conditions raise questions of regional equity and the distribution of nation-building resources. The United States Department of Agriculture states:

- Our urban centers — core cities and urban sprawl — are:
- congested, noisy, and full of tension;
 - surrounded by polluted air and polluted water;

¹ Rural areas are defined for purposes of this analysis as "open countryside, villages, towns and small cities up to 10,000 in population". (Rural Development Act of 1972, p. 60).

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- burdened with too many people on relief, many of whom moved in from the country, unskilled, uneducated, and unable to cope with city life. They also are costly.

The towns and small cities of the countryside are in trouble too:

- Rural America, with about one-third of the Nation's population, has nearly one-half of its poor housing and nearly one-half of its poverty.
- For years many of the brightest minds and most venturesome spirits in rural America have been drawn to the cities.
- For years hundreds of thousands of small farmers, sharecroppers, and farmworkers – the people who supported town and small city businesses – have been leaving the countryside to seek rewards elsewhere.
- Hundreds of small towns have become hollow shells haunted by boarded-up stores and large, half-empty homes occupied only by elderly citizens because the younger generations have fled to the cities. (USDA, 1969:5)

We have thus created a social, economic, and demographic vacuum in rural America and a congestion in urban centers. A basic law of physics tells us that every vacuum will be filled if not in one way, then in another. Without a strong program, the rural development vacuum may be filled with hit-or-miss, trial-and-error, short-term strategies inadequate for accomplishing desirable goals. As is true of all major shifts in national priorities, rural development is a complex, long-term process.

In no sense is this analysis intended to minimize the continuing national imperative for major attention to agricultural progress, but rather to emphasize the wide range of new opportunities for public service by land-grant universities and other agencies interested in rural modernization.

The following assumptions are central among the many that underlie this analysis:

- Rural development is a process now unhitching itself from the process of modern agricultural development.
- Rural development focuses on improvements in the quality of living and ways of making a living; modern agricultural development focuses on the quality of commodity production to sustain life.
- The processes of rural development and agricultural development are neither mutually exclusive nor are they identical. Strategies for either have implications for both.
- Balanced national growth requires integrated development of three major physical and demographic sectors of American society: *rural, urban, and suburban*.
- Rural development now provides an attractive alternative to further massive expansion of the "crises of the cities."
- Land-grant universities have no peer in technological resources, structural organization, staff expertise, assigned public mission, and established public credibility with reference to rural modernization, in addition to agricultural modernization.

The central question then is: Can we avoid the potential societal catastrophe that faces America if we fail to halt, and to some degree reverse, the flow of people from the countryside into huge megalopolises?

Orchestrating technological and other educational resources to effectively promote the separate but interrelated processes of rural development and agricultural development may well be accepted by land-grant universities as the central focus of their second century of unique public educational service. And the commitment of resources and strategies will need to come from all segments of these universities, not just from their colleges of agriculture and home economics.

To ignore the developmental needs in rural America is to default on new opportunities for public service by land-grant universities and governmental and business agencies. What is needed is a more precise identification and understanding of changes, as well as knowledge for designing and executing appropriate strategies to shape the direction and quality of the trends. In some problem areas, such as land use and environmental ecology, new directions are needed; many of the present trends must be reversed. In such areas as occupational opportunity, housing, education, and health services, the quality and quantity need extensive upgrading. Never before has the economic, social, and political environment in the United States been so favorable for taking such actions.

APPEAL OF RURAL LIVING

As American cities bulge into megalopolises of 25 to 50 million people stretching, for example, from Boston to Washington, D.C., Atlanta to Miami, Milwaukee to Pittsburgh, and San Francisco to San Diego, there is concomitant evidence that living in rural areas is becoming more appealing. The development of rural America is growing as an attractive alternative to further massive expansion and development of crowded urban centers.

Experts predict that the population of the United States may increase by as much as 100 million persons, or nearly 50 percent, by the year 2000. Should present population trends continue, 80 percent or more of all Americans will live in vast urban complexes by that time; 70 percent is now concentrated in urban areas. This will be the result of the continuing massive migration that has already brought more than 30 million Americans from farms and small towns into cities since about 1945.

Most of the migrants have crowded into cities of a million or more. With the problems of slums, traffic jams, poor housing, poverty, unemployment, crime, and rising welfare rolls already at near-crisis levels in large urban areas, policy makers concerned with balanced national growth are faced with many critical decisions. Among the major problems is that of designing a workable strategy

to manage the complex interrelationship, and thus the interdependence, of the three physical and demographic sectors: *rural*, *suburban*, and *urban*.

Rural development is an important component of an overall policy of balanced growth and must be regarded in that manner rather than something that's apart from and competitive with urban development, urban problems, and urban resources. (Ahlgren, 1973:35)

We are beginning to recognize that these areas cannot develop an enduring stability except through an integrated rural, suburban, urban continuum. Solving this problem is critical to the successful development of each of the areas. The dichotomy between rural and urban will diminish as integrated development succeeds.

Some say the problems are so complex that they appear to defy solution. But a part of the solution (in that it indicates awareness of a basic cause) may be found in a recent statement by Phil Campbell, Undersecretary of Agriculture, to the House Agricultural Committee: "On the other hand, we see the rural areas continually being depleted of their population."

What has been described as a "national consensus of needs" seems to be developing to make the small cities, towns, and countryside of rural America more attractive as places to live and to make a living, thereby reversing or at least lowering the rural-to-urban population tide. This requires programs to improve levels of living in rural communities, many of which suffer, as do urban areas, from lack of job opportunities, poor housing, inadequate health and school facilities, and other needed public services such as communication. In recent years, several federal departments and agencies have increased their help in solving these problems of rural America through the annual expenditure of an estimated \$20 billion. But, even so, the forms, extent, and use of this assistance appear to be inadequate.

Rural development specialists view it both as ironic and as a hopeful sign for the future that, although millions of rural people have fled to the big cities, an increasing number of urban dwellers are now indicating a preference for country living. For example, a recent nationwide opinion survey of young people by Unidex Corp., Bloomington, Ind., found that nearly two out of three of the group 18 to 24 years old expressed the desire to live either in a small city or town in rural America. The economic research service of the USDA predicts that, by 1980, about 180,000 city families a year will be buying second homes in the country — an 80 percent increase in the present trend.

Having a decent place to live and to make a living may be more important to people in the long run than being able to live where they choose. Many Americans are now denied both opportunities. For them, standards of living may be replacing levels of living.²

² The term "standard of living" here means level of aspiration or desire; "level of living" means the quantity of goods and services actually consumed by an individual, family, or group.

RURAL DEVELOPMENT POLICY

The United States, unlike many other countries, has only recently formulated an explicit macro rural development policy.³ To the extent that it was perceived in the past, our national policy was largely unofficial and *laissez faire* in nature. The controlling assumption has been that such singularly American values as entrepreneurship, the free-enterprise system, local self-initiative, and self-generation of required growth resources would meet the rural modernization needs. But this assumption is increasingly disintegrating as the basis of a workable policy. It is challenged by the growing pressure imposed by several important trends now affecting all of America's ecological sectors.

Among the most significant lessons learned by those of us who have served other governments as consultants on the design of strategies for modernizing their vast rural sectors is: that the *laissez faire* approach will not do the job; leaving people to their own initiative and resources is not enough; and, conversely, that planned intervention from external sources, such as local, state, and central governments, is essential to achieving intelligent patterns for developmental growth. Planning intervention strategies is largely a matter of policy formation, commitment of resources, and the design and execution of an effective delivery system.

Failure or lack of a rural development policy in America was largely the result of inaction in both the public and private sectors and at both the macro and micro levels, especially in projective analysis and strategy design. This inaction has created a vacuum of serious proportions in knowledge and experience. Soundly based data, analytical systems, and projected developmental strategies are among our serious deficiencies.

Building a strategy to solve problems requires that we first decide whether "what is" is good or bad, to what extent and in what ways — physically, biologically, economically, socially, politically, aesthetically, and perhaps, morally. On the basis of this decision, which provides the starting point for program design, we need to agree on "what ought to be" and to design realistic programs for making rural America more attractive as a place of habitation and earning one's income.

Our growing knowledge of essential elements in the rural development process makes it clear that community and regional growth depends on the input of public resources and group or collective action, in addition to self-mobilization of local human resources. This fact poses a dichotomy because of the types of action specified by a *laissez faire* policy and one that is comprehensive, systematic, and dynamic. The dichotomy must be removed in order to work effectively with the numerous variables now identified as essential to the rural development process, and to

³ Exemplified in the Rural Development Act of 1972.

assure optimum complementarity of resource allocation and effective use. Many land-grant universities, government agencies, and business enterprises are among those who are beginning to recognize these facts and to provide central leadership in attacking the growing rural development problem.

Seemingly, people are not destined to get along without problems. They increase their problem-solving capabilities through the use of technology and other means of enlightenment, but while doing this they also create new problems. The latter are increasingly referred to as "second generation problems."⁴ It may be assumed that problems are a natural part of developmental change, if not also of progress. Although it is axiomatic that progress requires change, not all change is necessarily progress. So man is at once a problem solver and a creator of new problems, and he must attack his new problems if he is to sustain progress. His skill in manipulating the variables in this continuous process determines the physical and social quality of his life and his economic destiny.

There is a rapidly expanding "urbanization" of rural America. Rural communities are becoming increasingly specialized and interdependent, not only with each other but with urban centers. This trend contrasts sharply with the situation in earlier years, when rural communities were largely agrarian and self-sufficient. Bishop made the point well when he wrote:

The small, locally based, largely self-sufficient rural community typically finds that its economic, social and geographic base must be altered if it is to survive. At the same time, most rural communities have been confronted with population declines, changes in population composition through out-migration and — in advance stages of decline — even a diminishing tax base. (Bishop, 1967:1000)

Change is a major characteristic of this part of the twentieth century. At no time in man's recorded history has the speed of change been so swift. Change or progress in America, in less than one generation, has taken us from the outhouse to the moon. But, like all change, progress has its price. We in the land-grant universities should decide the extent to which we are willing to pay the academic and other costs of the innovations that alter traditional emphases and resource allocations and that are necessitated by the new requirements for critical public service to rural development.

Structure of Rural Areas

One obvious condition is that the structure of rural areas, like urban areas, is dynamic and constantly changing, with or without planned external intervention. Hence,

⁴ Problems created largely by technological progress, economic, social, physical, and biological change. For example, land use, demography, distribution of economic equity, environmental encroachments, new educational requisites, and use of leisure time.

greater understanding of the nature of the structure is requisite to the design and implementation of plans to promote desirable change and arrest undesirable trends. We need to know the structure of local areas to know how to incorporate detailed information explicitly into the design of development strategies for changing the area.

To describe the structure of a rural area is to specify its elements, the environment in which on-going life's activities take place, and the form in which the parts of the structure are related to each other and to the entire system of living. To analyze the structure of an area for development, we first need to know the following: (1) the kind, amount, and quality of human economic and physical resources available; (2) how these resources are organized; (3) how the rewards are distributed in relation to the quality of life; (4) how the structure is changing; (5) what improvements are needed; and (6) the most promising intervention strategies.

Unfortunately, all of the socioeconomic strata of American society have not prospered equally well. We have created some "lost audiences."⁵ And these need to be identified and brought into the mainstream of modern economic, social, and political life. Poverty is essentially powerless without assistance from external sources.

It is becoming increasingly clear that the critical issue in America's rapidly developing economy is not simply the pace of growth, but the nature and distribution of growth among its citizens. A central issue created by the maldistribution of growth is the critical imbalance of equity between the low-income stratum and the middle and upper socioeconomic levels in both rural and urban areas. Disparity is growing, especially between rapid overall growth and comparable improvements in the economic and social status of the "poor." In free-choice societies, there appears to be a natural tendency for growth and its products to concentrate in the more dynamic sectors, with relatively small benefits accruing to the lower socioeconomic groups.

The technological revolution has not only established the level-of-living patterns of all Americans, but also continuously increases the pace of the country's economic growth. But for many reasons, masses of Americans — some 30 million of them — have not yet properly shared in the affluence it has created. Large numbers of rural people, whose low-level salable skills commit them to a condition of economic deprivation, live beyond the reach of normal, present-day market forces and public services.

Abundant evidence shows that current programs do not adequately serve the needs and aspirations of these people. Therefore, we are challenged to create some new frames of reference — new approaches established within the present institutional framework, but innovatively extending be-

⁵ The writer coined the term "lost audience" to designate the group(s) generally characterized by low education, low socioeconomic status, and a minimal share in the distribution of America's affluence.

yond it. This lost audience must be reached and influenced in its own socioeconomic and physical setting and largely on its own terms. Locked into a cycle of perpetual disadvantage, these people will continue to be deprived until institutionalized programs, unlike "business as usual," are created, supported, and executed at effective levels.

Needed Research

In the design of strategies for rural development, soundly based data collection and analytical systems at all levels are major requirements. This need is a great concern of educational institutions and state and federal agencies in policy making and priority setting. In short, using experimental approaches where possible, we need to establish a research base comparable to that achieved for modern agricultural development, but focused largely on second-generation problems. This approach can give us new insights into cause and effect relationships versus the usual normative survey or descriptive method; it can help focus on causes rather than symptoms. At best, the traditional, normative survey approach can only reveal the status quo or "what is." It cannot tell us "what can be" or "what should be." Certainly, bench-mark data are essential as a starting point for good strategy design, but we know pretty well from the vast survey data now available the answer to the question: What is? What we lack so acutely is the data that would help answer the more complex questions: What should be? and How can this condition be achieved? Ability to respond effectively to these critical questions is foremost in our land-grant universities and in USDA agencies. Until such data are expanded, the clarity of problems and soundness of programs will be limited.

Strategy

At the present time, no clear cut, widely applicable prescription or recipe for achieving developmental growth of rural areas exists. The variables are so many, so varying in valence, and so complex in relationship as to explicitly defy the construction of a variable map that would be useful beyond the hypothetical level of probability. Yet, we are striving to understand the process and to advance some models reflecting strategies that are at least well reasoned and founded on substantial research and experience.

Basically, the problems tend to be "people problems," not just technological problems alone. No longer is the engineering-technological variable the only limiting one; the socio-psychological, economic, and political elements now impose major constraints. And solutions may require the placement of people in the role of the dependent variable, with technology in the role of an independent

variable.⁶ Both are essential to the change process.

We need to recognize that there is much more to life than profits, dividends, and technology.

Thus the major problems to be solved in the next decade or more are largely "people problems," not technological problems alone. And to approach these problems successfully, we will need to restore people, not technology, as the central force effecting desirable economic, social and political change. To meet the challenge requires that we learn more about how to make human use of the aspirations and creations of society. In this venture, we need to remain constantly aware that it is not man's technology or his physical resources alone, but what he does with them, that is of transcendent importance to his progress. (Leagans, 72:362)

Consequently, the essential element in efforts to control the combination of a permissive social system and an advancing technological state is a prevailing human quality. Human resource development, which of course requires a supporting technological base, may need to become America's primary goal. The central problem in rural development, then, is to establish and maintain a condition of optimum complementarity between the human and technological variables. Thus, the rural development specialists, administrators, and recipients are all confronted by a major challenge.

Indeed, here is brought into play the process that is central in all efforts to improve the quality of life: properly synthesize *what is*, *what is possible*, and *what is valuable*; and then achieve the maximum of the valuable that resources make possible. Hence, designing strategy for rural development consists basically of: first, identifying the nature of needs or opportunities for improvements; second, identifying, mobilizing, and allocating resources required to meet the needs; and then designing and implementing an orderly series of steps (program) that will take advantage of the opportunities to enrich people's lives. Placing investments where they are most needed and will produce the maximum human good is the essence of designing programs for developmental change.

Rural Development Act of 1972

A landmark effort in the direction of establishing a national strategy for rural development is the *Rural Development Act of 1972*.

The purpose of this legislation is "to provide for improving the economy and living conditions in rural America" (1972:1). The act is comprehensive; it broadens the scope of many established agencies, institutions, and programs, including colleges and universities. In presenting the bill to the Senate of the United States, Senators Talmadge and Miller said:

⁶ The term "dependent variable" is used here to mean the central element or condition to be changed — the change target. The term "independent variable" means the element or condition employed as the influencer of change — the change agent.

The Rural Development Act of 1972 will enable this Nation to help to develop more and better jobs and income earning opportunities in rural communities to relieve the pressures of population, over-growth, and environmental pollution in the cities (1972:50)

Among the wide-ranging opportunities for land-grant universities provided by the several titles in the act, some quite specific activities are indicated by the following statements in Title V.

The purpose of this title is to encourage and foster a balanced national development that provides opportunities for increased numbers of Americans to work and enjoy a high quality of life dispersed throughout our Nation by providing the essential knowledge for successful programs of rural development. (1972:16)

In its specification of "Programs Authorized," this Title V further states:

The Secretary of Agriculture is directed and authorized to conduct in cooperation and in coordination with colleges and universities the following programs to carry out the purposes of this title:

Rural Development Extension Programs. Rural development extension programs shall consist of the collection, interpretation, and dissemination of useful information and knowledge from research and other sources to units of multistate regional agencies, state, county, municipal, and other units of government, multicounty planning and development districts, organizations of citizens contributing to rural development, business . . . or industries that employ or may employ people in rural areas. These programs shall include technical services and educational activity, including instruction for persons not enrolled as students in colleges or universities, to facilitate and encourage the use and practical application of this information. These programs also may include feasibility studies and planning assistance.

Rural Development Research. Rural development research investigations, and basic feasibility studies in any field or discipline which may develop principles, facts, scientific and technical knowledge, new technology, and other information that may be useful to agencies of Federal, State, and local government, industries in rural areas, development programs and activities in planning and carrying out such programs and activities or otherwise be practical and useful in achieving increased rural development.

Small Farm Extension, Research, and Development Programs. Small farm extension and research and development programs shall consist of extension and research programs with respect to new approaches for small farms in management, agricultural production techniques, farm machinery technology, new products, cooperative agricultural marketing, and distribution suitable to the economic development of family size farm operations. (1972:17)

Other provisions of the act with special relevance to the analysis projected in this paper are described in the following statements:

The bill builds the new program on the foundation laid over the past 100 years by the Department of Agriculture and the State land-grant colleges in connection with engineering and agriculture and home economics. This focus of the

land-grant system is shifted, by Title V, to include rural development and solution of the problems of people on small farms.

No longer will land-grant college activities be somewhat confined to the colleges of agriculture, engineering, and home economics. The resources of the entire campus . . . will be utilized.

Title V of the Rural Development Act of 1972 gives a major role to the land-grant colleges of 1890.

Both scientific research in the laboratories and offices on the campuses and the extension education facilities of all these schools are going to be put to work to help facilitate and guide rural development. . . (1972:53)

An ironic aspect of the rural-to-urban migration, especially during the last two decades, is that it was partly influenced by the same forces that brought national economic progress. Technological advances in agriculture, home economics, and related areas drastically reduced labor requirements, freeing millions of farm workers for employment in manufacturing and service industries located mostly in urban centers. Yet, agriculture remains basic to the welfare of rural America, a keystone of the national economy, and the nation's largest industry in terms of its dollar assets and the number of jobs provided on farms and generated in related services. It has a direct effect on more than 200 million American consumers of farm products and must continue to receive major attention by land-grant universities, government, and industry.

Hence, as previously mentioned, the purpose of this analysis is not to minimize the critical importance of continued and growing attention to agricultural progress, but rather to emphasize the new, wide-ranging opportunities for public service in the realm of rural development.

The forces that produced agriculture's unparalleled efficiency — a major one being the land-grant university system — simultaneously formed some second-generation problems in rural America. They left a legacy of dilapidated houses, a dearth of educational opportunity, and isolation from the improved health care and economic opportunities, while at the same time they contributed indirectly to the burgeoning of problems in urban areas.

In any event, the foregoing conditions and trends support the conclusion that one of America's critical developmental needs, now and for some time to come, is to establish a more equitable balance of social, economic, demographic, and physical elements among its rural, suburban, and urban sectors as places to live and to make a living. It was stated earlier that major emphasis on the further development of rural areas appears to offer an attractive alternative to the development of congested urban centers.

CONCEPTS OF AGRICULTURAL AND RURAL DEVELOPMENT

A few years ago, when American farmers overran the granaries with food and feed grain and the meat market

with animal products, the argument arose in some less knowledgeable groups that we had solved our rural development problem in the United States. Indeed, the food supply-demand relationship appeared to support such an argument at that time, when agricultural and rural development were viewed as synonymous processes. The oversupply situation was created by the successful advancement of agricultural science and education, largely generated by the land-grant universities with cooperation from the USDA, business, and industry. Through this infrastructure, American farmers – the first in the world to do so – were led to believe that science and education are useful to them, that science is a problem-solving tool, that education is the means for its use, and that through the use of these resources they could improve their production efficiency and economic status. The assumption proved to be valid, especially for the larger operators and more skillful entrepreneurs. Many of the most dramatic changes in our society have been achieved through technical application of scientific discoveries.

However, the transition of American society from rural to urban⁷, the progressively smaller number of farmers needed to produce the required food and fiber, the changing value patterns, the large number of Americans not now in the mainstream of progress, and numerous related problems have raised significant new questions for an educational institution whose historical focus (or at least the image of its focus) has been production agriculture, and people who lived mostly on farms. Central among these questions is: How can land-grant universities, through their well-established systems of research, on-campus teaching, and off-campus extension education, relate their current functions, resources, and structures to a fast-changing rural environment so as to remain educationally significant societal institutions?

It was mentioned earlier that, until recently, the United States scarcely had a macro rural development policy other than *laissez faire*. But the same cannot be said about agricultural development policy. In fact, the opposite is the case. To support this point, one needs only examine historically some of the major milestones in the development of the American agricultural system to the highest level of productive efficiency and scope the world has yet achieved.

Five of the most far-reaching policy decisions affecting agricultural development are: (1) the establishment, during Lincoln's administration, of the United States Department of Agriculture, which he termed "the people's department"; (2) the congressional acts of 1862 and 1890, commonly called the Land-grant College Acts, which provided for the establishment of the United States System of colleges of agriculture, engineering, and home economics; (3) the

Hatch Act of 1887, which led to the creation of our vast system of agricultural research; (4) the Smith-Lever Act of 1914, which provided for development of our pervasive extension education system; and (5) the Smith-Hughes Act of 1917, which provided for the teaching of agricultural education at the secondary-school level.

These pioneering, wide-scope actions by the highest level of governmental authority constituted the primary springboards in a national policy of agricultural development; they have provided for the development of trained manpower, research leading to new technologies in agriculture and home economics, and for the systematic extension of this new knowledge, especially to the farm people of America, who provide the primary management of the production phase of the agricultural enterprise.

Since the establishment of these federal laws (policy decisions), numerous others have been enacted that have further shaped the nation's intentions to transcend the gap between the low production associated with traditional agricultural practices and a modern, scientifically based, market-oriented agricultural industry. Major among these later actions was the congressional legislation in the 1930's, augmented by numerous successive refinements focused on agricultural adjustment, all of which gave both clarity and force to a nationwide agricultural policy.⁸ These historical actions, focused primarily on agriculture, demonstrate the usefulness of differentiating between the concepts of rural development and agricultural development. To the extent that the two processes are significantly different, a dichotomy is created that implies the need for policy decisions related to both.

Let the analysis begin with the fact that many, and maybe most, of our current agricultural leaders – we have but few self-proclaimed rural development leaders – tend to equate as synonymous the processes of agricultural development and rural development. This tendency may understandably be determined by their formal training and professional experience, which are largely oriented to agricultural technology, and hence, to production agriculture. Most of them are producers, or are associated with, the land-grant college system in research, teaching, or extension. Consequently, they are committed to servicing production agriculture which is, increasingly, commercial farming on a large scale.

As a result of these historical actions, the blueprints for agricultural development offered up to this time are largely focused on nonhuman variables, economic, biological, technological, and physical in content, and hence they tend to exclude the critical human element. Yet the human behavioral variable is the ultimate determinant of both the quality and speed of progressive innovation in all sectors of human progress. People are the final "gatekeepers"; they determine the quality and speed of progress.

⁷ The U.S. population was predominantly rural until about 1920. Since then the process of urbanization has continued and rural population has declined. Consequently, by 1970 nearly 3 out of every 4 persons were living in urbanized territory.

⁸ For an elaboration of this development, see Leagans, J. Paul., 1966: 244-249.

sive innovation. And to promote improvements in the quality of modern living calls for a social science perspective in addition to biological and technological inputs.

The point is supported well by Schultz in his statement that:

The pioneers who designed the pattern of our land-grant colleges of agriculture had the foresight and courage to gamble on science and its potential contributions to agricultural production. This gamble has paid off handsomely, exceeding the highest expectations of those early leaders. Our debt to them is accordingly large. But the success of this grand public venture has entailed a type of specialization in instruction and research that over-values the material components in agriculture and that, by the same token, *undervalues the human components*. Colleges of agriculture have a strongly built-in penchant to concentrate on plants, animals, land, and commodities, and to neglect health, schooling, skills, and other human capabilities... My argument is not that the material agricultural inputs are unimportant, but that they are far from sufficient in obtaining an optimum rate of rural development. (Turk and Crowder, 1967:393-396)

It should be pointed out here, however, that many of the socioeconomic problems of rural areas, such as underemployment, inadequate education, substandard housing, poor nutrition, lack of health services, and inadequate communication facilities, are not exclusively associated with agriculture; they are found also in urban areas. Nevertheless, most universities do not yet have the necessary array of personnel or technological resources to attack all of these problems. The new resources needed will have to be created through the cooperative efforts of many disciplines within the university, through substantial support from local, state, and federal governments, and from industry.

To view agricultural development and rural development as currently equatable phenomena is to accept at least three implicit assumptions: (1) production agriculture is the dependent variable in the process of rural development and, hence, also in improving ways of making a living and of the quality of life in rural America; (2) the agricultural enterprise can offer permanent, gainful, occupational opportunity for all who are interested in rural life; and (3) the image of agriculture as an occupation and the quality of life associated with it are acceptable to all residents of rural areas and others who may wish to return there, both young and old.

Current facts and trends raise numerous questions about the validity of each of these assumptions.

So long as rural America was primarily agricultural, agricultural development policy and rural development policy could be largely synonymous; but this is no longer true for a nation in which less than a fifth of the rural population is living on farms, and of the population living on farms, less than half of the income comes from agriculture. (Capp, 1972:1)

It appears, then, that in the distant past, agricultural development policy and rural development policy could have been viewed, with justification, as essentially common

processes. But socioeconomic and demographic changes, especially since World War II, have altered this relationship, so that now they should be regarded as two distinctly different, but interrelated, policy areas. Because of the immense complexity of these two separate but related processes, precise definitions are difficult; but to relate intelligently to them, one must have at least a general concept of their basic nature and major elements.

Agricultural Development

The most widely used single index to agricultural development is the concept of real agricultural growth per capita. The following are adaptations of an analysis of the concept by Arthur T. Mosher, an international authority on agricultural development:

• **Farming itself.** Farms are the places where all of the components of agricultural production are put together: management, production inputs, etc.

• **Agri-support activities.** These are not farming but are essential to progressive farm production. They include such activities as: developing (producing) and distributing fertilizers, improved seeds, pesticides, farm implements, etc. They also include such non-commercial activities as: research, extension education, education and training of technicians and many other related functions.

• **Appropriate agri-climate.** The agri-climate is made up of all of those influences and "rules-of-the-game" within which both farming and agri-support activities must operate. These are composed of: social values, social organization, prices, impact of legislation, taxation, markets, nature of political and administrative process and numerous other elements.

Mosher goes on to say that the term "agricultural development" represents a cluster of at least six related but separate clusters of concepts:

1. **Agricultural expansion.** This occurs when additional land is brought into agricultural production, utilizing additional labor and capital instruments without a change in "the state of the arts" of farm production or activities.

2. **Increased production per acre of cropland or per head of livestock.** It involves primarily a change in the nature or quantity of purchased farm inputs, or changes in livestock management practices, or, more frequently some combination of these.

3. **Agricultural growth.** This means the total growth of agricultural production in a particular national economy, whether resulting from expansion or development.

4. **Rising value of agricultural products per agricultural worker.** In one sense, that concept seems to be the most pertinent to the ultimate objective of all production activity, since the total of goods and services that mankind can consume depends on the total that it produces, and the total that can be produced depends on the average production per person.

5. **Rising income per person employed.**

6. **Agricultural transformation.** This refers to the normal long-

run phenomenon, as a nation's economy rises in productivity, for workers to be shifted out of agriculture into other types of economic life. In this case, development consists of whatever changes in agriculture are consistent with maximum overall productivity for the economy as a whole. The agriculture of a country might well be "developing" in the very process of disappearing. (Mosher, 1971:12-17)

Mosher concludes by stating:

The most straightforward and useful of these six concepts of agricultural development are the first two: agricultural expansion, in the sense of extending widely accepted technology to the cultivation of land, and agricultural development, increasing the output per acre of land by appropriate changes in farm inputs and practices. . . . Programs to accelerate expansion are different from those to stimulate development. (Mosher, 1971:17)

To more adequately describe the growing complexity of the American agricultural industry, the term "agribusiness" has come into widespread use during the last decade. The term refers to the total of all the activities involved in supplying agricultural production inputs, in producing food and fiber, and in processing and distributing raw material and consumer products (see Davis and Goldberg, 1967:7).

Operationally, the term "agribusiness" was used in a recent Cornell University Agricultural Experiment Station study to include:

All economic units (firms and farms) and all people occupationally engaged in these units at least half of whose volume, on a dollar value basis, includes one or several of the following activities: producing agricultural products; supplying inputs directly to the producers of agricultural products; receiving, handling, storing, and shipping; and all other activities involving the product up to and including the primary processing. (Taylor and Leagans, 1970:11)

These and numerous other attempts by various authors to express a concept of agricultural development make it clear that agricultural modernization, above all, is a dynamic, not a static, process that changes with the introduction of new scientific and technological ideas.

Clearly there are no utopian solutions to the quantitative or qualitative dimensions of the process, but three routes appear promising: (1) Creating a macroenvironment that makes possible and encourages the ultimate decision maker (farmers) to modify farming patterns; (2) building a body of useful technology and available requisite production inputs that fill the modernization requirement; and (3) optimizing an extension education system that effectively relates these conditions and resources to each other, and matches them with current behavior in ways that stimulate innovations which progressively overcome achievement disparities common to traditional agriculture. (Leagans, 1971:103)

Agricultural scientists have shifted to a common belief that support of a subsistence-level farming is a mistake in agricultural development programs. But this view may not hold for rural development, since the farm can provide a place to live and, in addition, partial economic support. Central to the process of agricultural development appears

to be the concept of a constant expansion in the production of agricultural products that is commensurate with optimum levels of quantity, quality, and economic return that are within the limitations imposed by available production resources. Hence, the basic strategy for agricultural development largely incorporates nonhuman variables — physical, economic, biological, and technological — and thus tends to assume that the ultimate dependent variable in rural life, which is the quality of people's living, will take care of itself.

Implicitly, the foregoing conceptual analysis assumes that agricultural development and rural development are equatable processes. This traditionally held assumption is not only being challenged but appears to be increasingly refutable in the light of current demographic, socioeconomic, technological, and physical trends in the United States.

Rural Development

For various reasons, including the large number of first-generation urban people who had a farm background, the American public still generally equates the terms "agriculture," "rural," and "farm" as conceptually synonymous. This confusion tends to carry into our legislatures which, until recently, have made but little effort to articulate significant differences in the agricultural development and rural development processes, and to express their views legislatively. A new breakthrough, however, is made by the Rural Development Act of 1972 previously mentioned. This congressional act is a far-reaching legislative manifestation of a new awareness of the need for, and emphasis on, rural development in America.

Title V, Section 507 defines rural development "for the purposes of this title" as follows:

"Rural Development" means the planning, financing, and development of facilities and services in rural areas that contribute to making these areas desirable places in which to live and make private and business investments; the planning, development and expansion of business and industry in rural areas to provide increased employment and income; the planning, development, conservation, and use of land, water and other natural resources of rural areas to maintain or enhance the quality of the environment for people and business in rural areas; and processes and procedures that have said objectives as their major purposes. (Rural Development Act, 1972:19)

As mentioned earlier in this analysis, the metropolitan areas, for several reasons, have accumulated more people and problems than they can manage, while at the same time, rural villages, small towns, and the surrounding countryside are being drained of their people and concomitant resources. The central image that appears in the definition of rural development just given suggests a potential solution to our critical imbalance of people and opportunity somewhat as follows:

A new type of community, neither urban nor rural, but possessed with the highest values of both; a functional, Multi-county Community of Tomorrow that blends the economic and cultural opportunities of affluent metropolitan life with the space and beauty of the countryside.

These Communities of Tomorrow will make possible in both city and countryside a quality of civilization that fully reflects man's aspirations and inventiveness.

Imagine, if you will, a time in the future when the American landscape is dotted with communities that include a blend of renewed small cities, new towns, and growing rural villages. Each is a cluster with its own jobs and industries, its own college or university, its own medical center, its own cultural, entertainment, and recreational centers, and with an agriculture fully sharing in the national prosperity.

Imagine hundreds of such communities that would make it possible for 300 million Americans to live in less congestion than 200 million live today — that would enable urban centers to become free of smog and blight, free of overcrowding, with ample parkland within easy reach of all.

The shape and nature of the Communities of Tomorrow will vary with the needs and desires of the people.

However, they will have certain basic characteristics.

First, the Community of Tomorrow will cover a much larger geographic area than today's community. It may extend over several counties. It will include a large or small city or two and a number of towns, villages, shopping centers, with open country in between. Together they will provide the economic, social, and cultural facilities for the area.

Second, the Community of Tomorrow will be natural in its geographic structure. Each of its components — villages, towns, cities, and counties — will be bound together by roads, rivers, and other physical and resource features that enable it to be a dynamic and fully functioning economic, social, and cultural unit.

Third, the Community of Tomorrow will offer a wide range of industrial jobs as well as a full range of employment in business, research, professional, and trade services. Other jobs will be filled by people simply providing services for other people.

A dream world? Not exactly. It is a world we can build if we are willing to work for it. (USDA, 1969:5)

So a viable concept of rural development includes agricultural development but goes far beyond it in scope, purpose, and process. The process requires an infrastructure of such magnitude that it may best be viewed not as a single program but as a cluster of interrelated programs functioning simultaneously and in sequence. Hence, successful attempts at rural development are likely to emphasize mobilizing a wide range of resources, to be focused on basic problems of "people development" by careful programming, and coordinating the problem-solving programs into a unified system of integrated, growth-centered, continuous developmental change in rural America.

Such a strategy projects beyond the traditional concept of a single-unit agricultural development to integrated, multiple-unit, comprehensive rural development designed

to improve the quality of life of all the people residing in America's countryside. The strategy does not propose to move people from their communities, but to develop all manner of ways to increase opportunities for improving the quality of life in the local setting; for example, alternatives to agricultural employment, adequate health and education facilities, and communication services. The purpose, then, of rural development is to open the doors of opportunity wider so that people can achieve and maintain a satisfying level of economic and social well-being in the rural areas of America and, at the same time, to indirectly reduce the growing congestion in urban centers.

Results will come slowly, but a wise, comprehensive policy and sustained action over the years will be cumulative. This is the way to progress toward building pervasively into our rural areas the optimum conditions for human living. It is one major avenue leading to balanced integrated national growth; it is the economic, social, physical and, maybe, political antidote to the "crises of the cities." Rural development, then, is one of America's most promising frontiers during the last quarter of the twentieth century, and land-grant universities can provide the most skillful leadership in achieving it.

Summary of the Two Concepts

In "agricultural development," the production of food and fiber at optimum levels of quantity, quality, and cost per unit is viewed as the dependent variable. Essential independent variables include all of the elements of production technology: fertilizers, seed varieties, pesticides, agricultural implements; also, other support activities, including price levels, markets, trained personnel, national legislative policy, research, extension education, and numerous other elements that influence growth of the agricultural enterprise.

In contrast, "rural development" focuses on people and their opportunity for vocationally, economically, physically, and socially acceptable levels of living as the dependent variable. Independent variables include job opportunity, housing, schools, health services, public utilities, communication media, agencies such as Cooperative Extension, and related resources essential to an infrastructure capable of achieving acceptable levels of living and qualities of the work place in rural America.

Rural development implies improvements in the way people work and live; agricultural development implies constant expansion in production of food and fiber at optimum levels of quality, quantity, and economic returns. Rural development focuses on improvements in the quality of life; agricultural development focuses on the quality of commodity production to sustain life. The two processes are neither mutually exclusive nor are they identical. Strategies for promoting either have implications for both.

THE PEOPLE'S UNIVERSITIES

Land-grant universities across the United States were established and have been widely accepted as "the people's universities." In this unique role they have focused on the discovery of new knowledge, manpower development, and the promotion of wide utilization of technology. Thus, they have been mission conscious and problem oriented to current and projected public needs. With this focus they have provided a gateway to new opportunities in a wide range of endeavors for both youth and adults. Today, as at each stage of their developmental history, these institutions are faced with numerous new opportunities, problems, and potentials for teaching, research, and extension education. Their present approach to these new opportunities in public service, as in the past, will largely determine their usefulness in the future as "people's universities."

Land-grant universities, by their unique design, survived and thrived by teaching, conducting research, and informing the public (extension). In myriad ways these activities are independent, interdependent, and constantly changing. However defined or approached, the sum of these three major roles constitutes a land-grant university's product. Neither the generality of the objectives nor the differences in their specific interpretations invalidates them as providing the primary perspectives that will determine a university's future. Such perspectives do not ignore size, financial problems, or other issues. They simply establish the nature of the curriculum and the fundamental relationship between institutional objectives and the means for accomplishing them.

A critical element in the unique nature of the land-grant university concept is its completeness as an educational institution; it creates new knowledge, develops educated manpower, and extends usable information to the public. The idea of coordinating research, on-campus teaching, and off-campus dissemination of knowledge has proved to be one of the foremost educational advancements in the free world.

But effectiveness of the institution demands that the research, teaching, and extension functions be closely coordinated and in reasonable balance. When research moves too far ahead of teaching and extension, an inventory of unused knowledge accumulates, and thus, valuable public funds are inadequately spent to the extent that the use of such knowledge for the public good is seriously delayed. Similarly, when teaching moves ahead of current and applicable technological content, the institution produces poorly trained and inadequate professional manpower. Likewise, when extension education is attempted with inadequate current technological information or without a well-trained professional staff, disappointing results are a certainty.

If indeed our land-grant universities are to endure as the people's universities, they must persist in their concern

for the seriousness of their mission, the application of science, the solution of problems, and the welfare of the people. The concept of the land-grant college demands that educational efforts be useful at the highest level of public good. To meet this requirement successfully they must always match the knowledge resources of the university with the people's needs, both on and off campus.

For various reasons, some legal and some interpretive, land-grant universities developed their technological competency primarily to serve agriculture and home economics. This was a wise policy because it met a primary need. But today, society needs a technology and a system for delivering it to people that can serve far beyond the requisites of agriculture and home economics. Consequently, many institutions are caught with inadequate resources — and maybe some lack of vision — to utilize many of these new opportunities for public service.

The role of the university must extend far beyond the on-campus classroom. Its research findings and talents must be made available to the community. Faculty must be called upon for consulting activities. Pilot projects, seminars, conferences, T.V. programs and task forces, drawing on many departments of the university, all should be brought into play. This is a demanding assignment.⁹

The role of match-maker between resources and people's problems is complex and may require some new approaches to curriculum, staffing, teaching, research, organization, and administration. In the future, more educational and related resources may well be channeled into the development of the rich and largely untapped human resources in rural America. For example, through further training in salable skills, numerous persons can be converted from tax liabilities to tax assets. To do this, however, many universities may need to reappraise the relationship of their curriculum to new societal trends and needs. This analysis may reveal new opportunities to increase research and educational services both on and beyond the campus for adults and youth, regardless of their academic credentials.

The harnessing and development of both technological and human resources is the essence of economic, social, and possibly political improvements. The human being in modern society increasingly requires education for continued progress in those areas. Hence, a major challenge for educational institutions today in the United States, as elsewhere, is to provide educational opportunities to deal with a widening range of problems in different circumstances.

Nowadays, our social conditions are marked, not by limited knowledge, but by immense reaches of knowledge which grow and change daily. . . . Changes of such magnitude challenge the notion that a college education must be limited to residence on a single campus for a four-year block of time. (SUNY, 1972:42)

Land-grant universities were created, as provided by the

⁹ From President Johnson's *Message to Congress*, January 12, 1965.

Morrill Act of 1862, to fill a recognized need for a wider range of educational opportunity than was offered by the existing institutions of higher education at that time. Although much has been accomplished, the necessity of a more complete education not only still exists but may be even greater than before. The very nature of "the people's universities" renders them distinctively capable of making the innovations essential to matching their resources and current societal needs. How else, it may be asked, can we adequately respond to the American right of access for all to public education resources and provide whatever learning is needed throughout life?

INNOVATION: ROUTE TO PROGRESS

A common tendency among advocates of planned change through education is to view innovation as a unidimensional phenomenon when, in fact, it is a multidimensional process. Basically, innovation requires change. And change through education requires movement from one set of conditions (current patterns of behavior, physical, social, economic, etc.) to another set of conditions (new patterns of behavior, qualities of life, etc.) that is assumed to constitute a more desirable state of things. So innovators always face a complex question: Innovate from what to what? Their efforts must reflect both ends of the "what-to-what" continuum and an understanding of the relationship. The first "what" relates to the status quo (what is); the second to new conditions perceived to be more desirable (what ought to be). Modern technology and progressive value systems provide practicable alternatives to the status quo and, hence, make effective economic and social innovations not only desirable but possible.

Progressive innovation, however, does not demand refutation of all elements of the status quo, because all aspects of current behavioral patterns and the condition of things are by no means inhibitors of progress in most situations. Instead, it requires that the technological and value content of promising innovations consist of ideas to use and improve the progressive aspects of current conditions and human behavior.

Modernization in any form requires new knowledge, the skills to use it, and the attitudes that place a value on promising innovation. Promoting changes that yield progress is a timeless process of effectively combining the effects of its central elements, primarily custom, tradition, ideology, technology, physical resources, education, opportunity, modernity, and a sense of purpose. In manipulating these variables one must attempt to harmonize the forces of tradition and modernity. The human element is central in this conflict.

Innovation, then, has always an antithetical relationship with the status quo. The two conditions cannot immutably coexist. As the prevalence of one widens, the other nar-

rows. The first represents deviation from the existing state of affairs; the second represents maintenance of it. When properly designed and directed, the first represents desirable progress; the second traditionalism. A central problem for agents of change stems from the dualism between these two forces, which are locked in a constant struggle in all institutions — the one seeking to promote innovation, the other to maintain the status quo. The former represents incentives to change; the latter inhibitors to change. The former tries to throw the latter off balance; the latter tries to keep this from happening.

When the strength of influence of these two opposing forces is equally exerted, static or passive behavior prevails.¹⁰ To achieve innovation through the power of education, an imbalance in the relative influence exerted by the opposing forces on behavioral patterns must be created. To produce this imbalance requires introducing new forces for change (change incentives), such as useful technology and new value orientations, and weakening or displacing the existing forces that work against change (change inhibitors) — adherence to outmoded practice and belief patterns, for example. Hence, to produce innovation for modernization requires at least four kinds of action: (1) introduction of additional change incentives, (2) strengthening change incentives already present, (3) removing or weakening change inhibitors in the situation, and (4) creating effective complementarity of the forces for modernization (change incentives).¹¹

Setting for Innovation

The following conditions are generally found among those that lead to the need for reorienting the focus of an institution or its units.

- **Internal factors** such as: expanded or reduced scope of functions, increased complexity of roles, grouping of incompatible functions and personnel, and anticipated new roles. In short, an organization that developed largely by expedience rather than by organizational design and principles is usually in need of some redesign.
- **External societal factors** such as: economic, social, political, demographic, and technological changes that affect the living patterns and ways of making a living of a society and the potential clientele, all of which hold implications for changing roles and refocusing the objectives and resources of the units of a university.
- **Public image.** A university and its major units eventually establish a public image. As a result of societal change — or progress — the public image inevitably becomes incongruent with the image perceived by the institution's faculty when it fails to periodically reorganize and re-

¹⁰ Behavior is perceived broadly to include "thinking," "feeling," and "acting."

¹¹ The foregoing ideas about the nature of innovation are among those emerging from our growing knowledge of the modernization process.

focus its resources in line with public needs and expectations. By analogy, a college or university may be viewed as an "academic cafeteria," the sustained significance of which depends on offering a high-quality academic "menu." This curriculum should be planned and systematized for effective dissemination — on campus and off — with enough relevance to current and projected societal needs to attract public participation and support on a continuing basis.

• **Student motivation.** Whether considered "good" or "bad," enrollment of students in any phase of university education is increasingly, if not now primarily, motivated by vocational interests. Accumulation of knowledge and related learning with current or eventual utility value has become a primary goal of students. Most students and their parents nowadays rank it above the traditional view of a university degree as a "ticket to social mobility." With the present high education costs, most families cannot afford the latter goal, even if they would like it.

The growing dependency on science and technology has created complexities that necessitate increasing familiarity with man's vast storehouse of current knowledge if he is to find an acceptable mode of survival. It is the singular role of a modern land-grant university and its units to further expand, accumulate, synthesize, organize, and extend its wealth of knowledge as widely as its resources will permit. To remain effective forces in the instrumentation of positive change, these institutions must virtually maintain a constant state of innovativeness. And this poses a complex question: How can a faculty be encouraged to innovate so that their educational resources can be transmitted to increasingly wider segments of society?

ACCOUNTABILITY AND PUBLIC MISSION

With the likelihood of continuing public support for the education offered by land-grant universities and other institutions of higher education, two concepts are emerging with rapidly growing significance: *accountability* and *public mission*. These concerns are growing among federal and state legislative bodies, state education commissioners, and university boards of trustees, and by various means they are seeking evidence of accountability and public mission from colleges and universities. For example, university administrators are expanding the use of comparative performance studies focused on such issues as cost controls, program budgeting, comparative costs of objectives, and curriculum management systems. The trend toward central control, administrative reorganization, more extensive record keeping, and instructor evaluation are other examples of this change in emphasis. The problem was stated well by President Cleveland of the University of Hawaii in a recent speech when he said:

In an egalitarian society, if members of the academy presume to raise questions about international and national and local decisions, which as citizens they do and should, the

international and national and local decision-makers will naturally raise questions about how professors work and students live. Those who want the protection of a monastery have to act like monks. On a relevant campus, there's no hiding place. . . . (Cornell Chronicle, 1972:7)

Any perceptive member of a university system or community can recognize that a more detailed record of the ratio of input to output is now being requested as a basis for more meaningful accountability to the public. A partial long-range solution may be for some institutions to shift from basic to more applied research in response to the growing insistence by some federal agencies and other funding groups to see direct applications of their money.

University faculties and administrators, of course, do not expect to spend public funds without giving an account of how they were used; but they become concerned when accountability is coupled with a concept of "public mission."

After an era of unprecedented confidence and expansion throughout higher education, there is now widespread questioning of higher education's place in our culture, and of its claim on our resources. And growth — which for decades has been the hallmark of our colleges and universities — is decelerating . . . In an era of no-growth, it is the institutions that know what they want to be, and how they are going to be it, that will survive and prevail. (American Alumni Council, 1973:2, 15)

This condition raises questions of eligibility for public funds. The concept of public mission held by many legislative groups and others proposes that, to qualify for public funds, universities with unique educational resources, such as land-grant institutions, may be required to meet certain public priorities and goals that will be selected by local, state, or federal government bodies. For example, part of the common public mission is to provide educational opportunities for more students than ever before, both on campus and off. Few will oppose that notion. But are the physical facilities adequate, and are the faculties and administrators willing to alter the long-established self-concept of their mission, curriculum, time allocations, and other related elements to the extent necessary to fulfill the newly imposed purpose of public mission?

Today there is probably no sharper criticism addressed to institutions of higher education in America than the accusation that they have been "ivory-towers." They are being advised to reexamine their objectives in terms of relevancy to current societal problems, and as a consequence, the ivory tower appears to be crumbling. The demand is to increase the linkages that connect knowledge centers with people's problems.

Higher education's long period of postwar growth coincided with a long period of national affluence . . . and, nearly everywhere, public colleges and universities received a top priority share of dollars. . . . But urgent new needs have developed in other areas — health care, aid for the disadvantaged — and the competition for the dollars has grown.

The result: Public colleges and universities have been subjected to unprecedented demands for "efficiency", some justified, others panicky and unwise. And to achieve that efficiency, many States are dramatically reorganizing their structures of public higher education. (American Alumni Council, 1973:15)

The rationale for the efficiency trend reflects the assumption that higher public education should be regarded as a national resource, that the roles of institutions should be determined in large part by societal needs, and that resources should be allocated according to a plan and their actual use accounted for. A foundation official said recently: "The time has come to take a new look at each of our institutions in some systematic way which relates energy and material input to learning output, and relates behavioral objectives to social needs."

Sir Eric Ashby, a distinguished British educator who served as a member of America's Carnegie Commission on Higher Education wrote:

The gravest single problem facing American higher education is the alarming disintegration of consensus about purpose. It is not just that the academic community cannot agree on technicalities of curricula, certification and governance; it is a fundamental doubt about the legitimacy of universities as places insulated from society to pursue knowledge disengaged from its social implications. Ending that fundamental doubt . . . will require a reevaluation of the relation between universities and American society. (American Alumni Council, 1973:15)

Thus, it appears that in America we are entering a new educational era, one that is programmed for both discovery and wider dissemination of practical knowledge. As the quality and quantity of input increases, so will the need for insight into the pattern of its use. Thomas Jefferson once said: "Society will never reach a state of perfection; however, mankind can achieve great improvements, and the diffusion of knowledge among the people is the instrument by which it can be effected."

Clearly one of the growing concepts of appropriate public mission of land-grant universities is to make their resources available to all of the people who can use them. Hence, the nation, state, region, and community should increasingly be viewed as the land-grant university campus. In the future, their critical role will be, first, to guard academic standards to assure continuation of dynamic, high-quality, and currently relevant knowledge centers; and, second, to create delivery systems through which they play an increasingly effective public service role by bringing together people's problems and the centers of creative thought. This is really what appears to be meant by the term "relevance."¹² And, with greater frequency, legislative

bodies seem to be viewing relevance as a part of their concept of the newly emerging public mission of land-grant universities and other institutions of higher education.

Let it be remembered that we have learned through painful experience that providing services in a rural setting does not by itself guarantee effective use of such services by the local population. It is a relatively simple task to disseminate knowledge and to make educational services available; it is a vastly more complex problem to achieve awareness, understanding, acceptance, and effective utilization of such help by the masses of people who could profit from it.

CONCLUDING STATEMENT

In 1880 more than 4 out of 10 Americans lived on farms, but by 1970 the proportion had fallen to 1 in 20. In 1950 our farm population was about 23 million, living on 5.6 million farms; but by 1970 these numbers were reduced to 9.7 million persons living on only 2.9 million farms (Bureau of the Census, 1970). About 2 percent of the nation's farmers sold close to 33 percent of all farm produce. So the hard fact is that America is now an urban, or at least a nonfarm, nation, when measured occupationally and demographically. We have then created a vacuum in rural areas and congestion in urban centers.

Not only has the rapidly improving efficiency in agricultural production sharply decreased the numbers of persons needed to operate farms, but also the actual and perceived advantages of urban life have drawn people into the cities. Consequently, a reversal in the trend will be achieved only when attitudes are reversed — when life in rural areas seems to be, or actually is, more appealing than living and making a living in urban centers.

In bringing about this condition, land-grant universities have no peer in the assigned public mission, technological resources, staffing, organization, public credibility, overall educative research, manpower development, and extension expertise that are pertinent to the rapidly emerging opportunities to modernize rural America.

As mentioned previously, a national policy for agricultural development, and the essential means for implementing it, are well established; but the same cannot be said for rural development. Demographic trends, such as population moves out of rural areas into urban centers and a rapidly expanding suburbia, and their effect on the need to further develop rural America appear now to require systematic attention of a scope approaching that given agricultural modernization during the past two or three decades.

This and related problems offer numerous opportunities for innovation in updating the public mission concept of land-grant universities. Legislative bodies may now, or

¹² Although used here to mean "related or pertinent to the current moment," it is useful to understand that the concept "relevance" may refer to any time, now or in the future. This reminder is especially important in references to the research dimension of land-grant universities, i.e., good research always takes time, it cannot be relevant until a project is successfully completed, hence, there is a time lag.

soon will, be penalizing some institutions for not responding more rapidly to this new era of opportunity. The central problem in responding to new public requests and opportunities appears to be striking an optimum balance between competing agricultural development and rural development. And the latter is clearly becoming a central concern of legislative bodies, often supported by feedback from their electoral constituencies.

A few points are clear. These unique public institutions now have an opportunity to open their doors wider and make their resources increasingly available to all the people — not just farm people — whom they can serve effectively. And change in emphasis includes a wider focus on rural development, in addition to continued service to agricultural development. But to enable the land-grant universities to broaden their public service, legislative bodies will need to increase financial support for expanded research and extension education.

The miracle of the "Green Revolution" may have arrived on the large commercial farms in the United States, but there are millions of small and part-time farmers and others living in rural areas who have not yet been able to participate in its benefits. Many of these people need help in ways agricultural technology alone cannot provide.

The skillful agricultural scientists and effective extension education systems that are associated with land-grant universities, in cooperation with government, business, and industry, have taken impressive strides toward solving the technological problems of agricultural modernization. Now the land-grant university system has the clear opportunity to make outstanding progress in "people development." Indeed, its great opportunity is to help incorporate into America's rural society optimum conditions for living and qualities in the work place, just as it has been a major factor in applying the world's foremost expertise to America's agricultural production enterprise. Both processes are essential and are inseparably interrelated with each other and with urban development. This fact poses some new problems, shifts in emphasis, and reallocation of resources in giving people, both urban and rural, greater choices in what they do with their lives. The ending of a period of unprecedented institutional growth has reopened the debate about the role of higher education in the lives of individuals and in the well-being of American society.

Hence, a new era of education is emerging, one that is designed for both discovery and extension. And as the quality and quantity of the technological input increase, so will the need for insight into the patterns of its use. It is not man's technology alone, but what he does with it,

that is of transcendent importance to his progress.

This emerging educational direction requires the land-grant university to extend its influence far beyond the confines of the campus and the relative few who can come there to study, to the much greater numbers who would benefit from university resources if given the opportunity.

Just as higher education has remained arbitrarily time-bound in many ways, so has it continued to be confined in place by traditions that do not hold. The conditions which, in the past, justifiably produced a classic "fortress" approach to higher learning have vanished. . . . The campus is by no means obsolete. What has become largely obsolete is its old character as a self-contained enclave, a retreat. In contemporary life, its productive new role is to serve students instead as an essential base of operations . . . the organizing part of a network of appropriate resources for learning wherever located (SUNY, 1972:42)

In short, the task will be to put knowledge centers in touch with people's problems so that both rural and urban people will be able to improve the quality of their lives through further learning.

The nature of their history suggests that "the people's universities" will accept the challenge and achieve the desired ends.

Because of the importance of rural development to the future of our Nation, someone will be tapped to provide the leadership role. Any objective assessment of the situation would indicate that it can and should be the staff of USDA and the faculty of our land-grant universities. Clearly, no segment of government is better prepared, more knowledgeable, has more ability and skill or has a higher level of commitment of service to people through education than we do. (Ahlgren, 1973:39)

But to do so, many institutions will have to drastically revise their established concepts of mission and resource allocation, at all levels. In numerous areas of promising change, the future is "up for grabs." Congressman Don Fuqua of Florida said recently in a speech to state agricultural leaders: "The development of America's rural areas is critical if we are to meet the challenges of this decade."

One of the main reasons experience is not the great teacher it could be in efforts to innovate or change is that people and institutions tend to process their experiences to conform to well-established biases, or tailor them to fit prior conclusions. Like a successful business enterprise, no university or government agency today may wisely leave all innovative initiative to others; they may find it difficult to progress if other institutions seize the new opportunities and keep going.

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